

Amendments to the Specification:

Please replace the paragraph beginning on line 20 of page 2 with the following amended paragraph:

Other embodiments of the invention include one or more of the following features. The semiconductor photonic elements of the optical signal distribution circuit include optical waveguides and output elements coupled to the optical waveguides for delivering signals carried by the waveguides to the microelectronic circuitry. The output elements are optical detectors which convert optical signals to electrical signals. The optical signal distribution network is an optical clock signal distribution network. The first semiconductor layer comprises silicon; the insulating layer comprises ~~an oxide of~~ a silicon oxide; and the second semiconductor layer comprises silicon. The combination of the first semiconductor layer, the insulating layer and the second semiconductor layer is an SOI structure. The second region of the second semiconductor layer is thicker than ~~that~~ the first region of the second semiconductor layer. The top surface of the first region is of a quality that is sufficient to permit CMOS circuitry to be formed therein.